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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,095	02/27/2004	Timothy D. Sellis	18347 USA	7706
23307	7590	05/29/2007	EXAMINER	
SYNNESTVEDT & LECHNER, LLP			MATZEK, MATTHEW D	
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26TH FLOOR			ART UNIT	PAPER NUMBER
PHILADELPHIA, PA 19107-2950			1771	
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			05/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/789,095	SELLIS ET AL.
	Examiner	Art Unit
	Matthew D. Matzek	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 March 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24, 31-55 and 62-69 is/are pending in the application.
- 4a) Of the above claim(s) 68 and 69 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-24, 31-55 and 62-67 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 February 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/13/2007 has been entered.

Response to Amendment

2. The amendment dated 3/13/2007 has been fully considered and entered into the Record. Claims 1-24, 31-55 and 62-69 are currently active. Amended claims 1, 12, 22, 31, 62 and 65 do not contain new matter. Newly submitted claims 68 and 69 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the originally presented claims are direct to a composite sheet and the new claims are directed to a method of making a composite sheet.

3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 68 and 69 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. The previous rejection of claims 1-7, 9, 11, 14, 16, 17, 19, 20, 25-41, 43, 43, 48, 50, 51, 53, 54 and 56-67 has been withdrawn due to the new limitation of a

polymeric heat shapeable/settable netting layer set forth in the independent claims has not been provided for in Gladfelter et al. (US 6,309,721) or Cook, II (US 2003/0012944). All subsequent rejections based upon this combination are therefore also withdrawn.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-7, 9, 11-14, 16-17, 19-20, 22-41, 43, 45-48, 50-51, 53-54, and 56-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137).

a. Gladfelter et al. teach a flexible protective sleeve comprising an outer layer of a bi-laminate of a metal foil and a film of polyethylene terephthalate (PET) wherein the film has been flashed with aluminum (col. 4, lines 22-27). This outer layer anticipates the instantly claimed reflective layer with the PET layer being the flexible, resilient layer and the flashed layer of aluminum constitutes the metallized film layer. The metallized film layer may be adhesively attached to the foil layer (col. 4, lines 25-27). Under the outer layer comprising metal foil, aluminum metallized film, and layer of PET is support layer 11 which may be polyester or other heat settable polymeric materials (col. 4, line 53-55) and inner layer 12 which may be felt (col. 4, lines 27-29, Figure 1). The invention of Gladfelter et al. is directed for use and a sleeving product with the foil layer facing outwardly and the felt (damping) layer. The invention is to be used as a tube with a hollow central core. Gladfelter et al. teach the concept of biasing a support

layer in the disclosure pertaining to the serpentine monofilament 14. In particular, the reference teaches that the monofilament should provide sufficient rigidity to provide high hoop strength (circumferential) while at the same time provide a high degree of flexibility longitudinally (col. 1, lines 47-55). This demonstrates a biased support with greater rigidity in the circumferential direction relative to its longitudinal direction. The applied reference also teaches the use of woven or braided sleeving to provide low cost, light weight protection of cables, wires and tubular members against the effects of temperature, to isolate sources of heat (col. 1, lines 20-35). The orientation limitations set forth in claims 36-39 have been met by the illustrated embodiments of Figures 2, 2A and 2B. The invention of Gladfelter et al. is silent as to the use of a thermoplastic netting layer to serve as support layer 11 and aluminum foil for the metal foil layer.

b. Cook, II teaches a reflective insulating material comprising outer layers of reflective foil, multiple layers of foam and a mesh material sandwiched between the layer of foam material all adhered together by adhesive (Abstract). The outer layer of foil is made of aluminum [0014]. A layer of adhesive has been placed between each layer to assist in maintaining the structural integrity of the article (Abstract).

c. Since Gladfelter et al. and Cook, II are from the same field of endeavor (i.e. reflective insulating materials) the purpose disclosed by Cook, II would have been recognized in the pertinent art of Gladfelter et al.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the metal foil layer of Gladfelter et al. of aluminum foil. The skilled artisan would have been motivated by the desire to make use aluminum foil for its reflective properties. It would have also been obvious to have used the pressure sensitive adhesive of Gladfelter et al. (col. 4, lines 39-41) between each layers of the combined invention, as described by Cook, II and have said adhesive extend through the interstices of the support layer. The artisan would have been motivated by the desire to impart greater structural integrity to the combined article via the application of PSA and by extending through the interstices the adhesive would be in contact with more surface area resulting in a stronger bond.

e. Bunyan teaches an electromagnetic shielding wrap comprising pressure sensitive adhesive (Abstract), metal foils and polyester meshes (col. 6, lines 18-56 and claim 8). Illustrated in Figure 3 is the polyester mesh of interlayer **18** that reinforces the foil member 12 for easier handling and cutting (col. 6, lines 51-60). The first and second elongated members of **18** are oriented at right angles to one another and the members that wrap around the body of the central core **52** are oriented perpendicular to an axis extending lengthwise along the central core. Claim 8 provides for polyester and polyamide meshes, which are heat shapeable and possess crossing members.

- f. Since Gladfelter et al. and Bunyan are from the same field of endeavor (i.e. insulative articles), the purpose disclosed by Bunyan would have been recognized in the pertinent art of Gladfelter et al.
- g. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the article of Gladfelter et al. with the polyester mesh of Bunyan. The skilled artisan would have been motivated by the desire to have imparted the article of Gladfelter et al. with tear resistance and reinforcement of the foil member for easier handling and cutting without deleteriously affecting the overall drapability of the article (col. 6, lines 57-62). Furthermore, the Gladfelter et al. reference establishes the use of woven and braided articles for use as support layers in its background section.
- h. Claims 13 and 46 are rejected as it would have been obvious to have made the first members (width) of the reinforcing mesh with greater bending stiffness than the second elongated members (length). Gladfelter et al. teach the concept of biasing a support layer in the disclosure pertaining to the serpentine monofilament 14. In particular, the reference teaches that the monofilament should provide sufficient rigidity to provide high hoop strength (circumferential) while at the same time provide a high degree of flexibility longitudinally (col. 1, lines 47-55). This demonstrates a biased support with greater rigidity in the circumferential direction relative to its longitudinal direction. With regards to claims 13 and 46 the stiffer circumferential members serve as the first elongated

members and the longitudinal members serve as the second elongated members.

6. Claims 8, 21, 42 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137) as applied to claims 7, 20, 41 and 53 above, and further in view of Gladfelter et al. (US 5,849,379). The inventions of Gladfelter et al. ('721), Cook, II and Bunyan are silent as to the thicknesses of the metal foil and felt layers.

a. The '379 patent teaches a split sleeve for insulation comprising an outer metal foil layer (Abstract) of 0.001 inches (col. 2, lines 62-65) and an inner layers of felt of about 2mm (0.079 in) (col. 2, lines 57-59).

b. Since the inventions of the '721 and '379 patents are from the same field of endeavor (i.e. insulative sleeves), the purpose disclosed in the '379 patent would have been recognized in the pertinent art of the '721 patent.

c. It would have been obvious at the invention was made to a person having ordinary skill in the art to modify the article of the '721 patent to have a foil layer of 0.001 inches and a felt layer of 0.079 inches. The skilled artisan would have been motivated by the desire to create an insulative article that is cost effective and possesses high durability (col. 1, lines 31-36).

7. Claims 18 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137) as applied to claims 17 and 51 above, and further in view of Cohen et

al. (US 2004/0126597). The inventions of Gladfelter et al. ('721), Cook, II and Bunyan are silent as to the thicknesses of the adhesive layers.

- a. Cohen et al. teach a material for covering insulation surfaces to protect them from environmental factors. The covering comprises multiple layers of foil with layers of pressure sensitive adhesive (PSA) disposed between said foil layers (Abstract). The PSA layers are typically 0.079 mm [0041].
 - b. Since Gladfelter et al. and Cohen et al. are from the same field of endeavor (i.e. covering for insulative articles), the purpose disclosed by Cohen et al. would have been recognized in the pertinent art of Gladfelter et al.
 - c. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to have made the article of Gladfelter et al. with layers of PSA of 0.079mm. The skilled artisan would have been motivated by the desire to create an insulative article with improved structural integrity without making the article heavy or costly due to excessive use of PSA between the layers.
8. Claims 15 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137) as applied to claims 1 and 48 above, and further in view of Baccus et al. (US 2002/0127933). The inventions of Gladfelter et al. ('721), Cook, II and Bunyan are silent as to the use of polypropylene in place of a polyester such as PET.

Gladfelter et al. discloses the claimed invention except that PET instead of polypropylene, Baccus et al. shows polypropylene is an equivalent structure

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known in the art. Therefore, because these two materials (polyester and polypropylene) may be used interchangeably as textile meshes in insulative articles and as such were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute polypropylene for polyester.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137) as applied to claim 9 above and further in view of Jones et al. (US 5,122,412). The disclosures of Gladfelter et al., Cook, II and Bunyan are silent as to the thickness of the metallized film layer.

a. Jones et al. teach a metallized high specular gloss polyethylene plexifilamentary film-fibril sheet with very low emissivity created by coating the film-fibril sheet with a metallized layer. Such metallized sheets are useful as radiant barriers (Abstract). The metallized sheet reduces radiant heat transfer from a hotter exterior and reduces convective heat losses when a cooler environment surrounds the insulated article (col. 1, lines 44-48). A metallized layer thickness of between 75 and 300 Angstroms is desired (col. 4, lines 62-66).

b. Since Gladfelter et al. and Jones et al. are from the same field of endeavor (i.e. radiant barriers), the purpose disclosed by Jones et al. would have been recognized in the pertinent art of Gladfelter et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the metallized layer of

Gladfelter et al. with a thickness of between 75 and 300 Angstroms as disclosed by Jones et al. The skilled artisan would have been motivated by the desire to create an article that is a radiant barrier with low emissivity, high moisture vapor permeability and good resistance to air and water penetration (col. 1, lines 14-19).

10. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gladfelter et al. (US 6,309,721) in view of Cook, II (US 2003/0012944) and Bunyan (US 6,410,137) as applied to claim 43 above and further in view of Cohen (US 4,780,347). The disclosures of Gladfelter et al., Cook, II and Bunyan are silent as to the thickness of the metallized film layer.

a. Cohen teaches the creation of an insulation system for pipes (Abstract). The insulative system includes an interior metallized layer **18** of aluminum with a thickness of 0.00035 to 0.0007 inches (col. 3, lines 22-32).

b. Since Gladfelter et al. and Cohen are from the same field of endeavor (i.e. insulative systems), the purpose disclosed by Cohen would have been recognized in the pertinent art of Gladfelter et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the metallized film layer with a thickness of 0.00035 to 0.0007 inches with the motivation of providing the insulative system with a vapor barrier (col. 3, lines 15-20, Cohen).

Response to Arguments

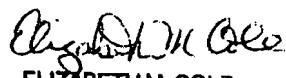
11. Applicant's arguments with respect to claims 1-24, 31-55 and 62-67 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is 571.272.2423. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571.272.1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ELIZABETH M. COLE
PRIMARY EXAMINER

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